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EXAMINER				
ZHE, MENG YAO				
ART UNIT		PAPER NUMBER		
2195				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

# Office Action Summary

**Application No.**

10/754,443

**Applicant(s)**

FRANCIS ET AL.

**Examiner**

MENG YAO ZHE

**Art Unit**

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date 3/10/2009
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-2, 4-25 are presented for examination.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-2, 4-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- A. The following claim languages are unclear and indefinite:

- i) Claim 1, It is not understood what the relationship is between "one or more solutions" in line 4 and "a transmission schedule" <i.e. what is considered to be a solution? Is it the optimal time frame to schedule a job or is it merely how much resources one should assign to a job? The amended claim does not fix this problem as what this solution could be is still ambiguous. It merely clarifies that determining solution is based on a program schedule, not what a solution is.>

Claim 25 has the same deficiencies as claim 1 above.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4-8, 17-20, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montvay et al., Pub No. 2003/0037151 (hereafter Montvay) in view of Nourbakhsh et al., Pub No. 2003/0009520 (hereafter Nourbakhsh) further in view of Johnson et al., Patent No. 5,978,785 (hereafter Johnson).

6. Montvay and Nourbakhsh were cited in the previous office action.

7. As per claim 1, Montvay teaches the invention as claimed including a method comprising:

receiving one or more inputs, the one or more inputs requesting recording of one or more of a plurality of jobs (Para 30: user requests for recording);

determining one or more solutions for each of the plurality of jobs based on a transmission schedule, each non-null solution requiring a set of resources over a set of intervals (Para 66), wherein one or more combination of a solutions for the plurality of jobs require a number of resources greater than a number of resources available at a particular interval, resulting in a scheduling conflict (Para 30: recording conflict);

resolving the scheduling conflict inducing automatically determining one or more plans for performing jobs (Para 70), each plan having a combination of solution including a particular solution for each of the plurality of jobs, wherein resources used by the plurality jobs for the combination of solutions in each plan are less than or equal to the number of resources available at each interval (Para 47-56: each possibility corresponds to a solution for each recording job; Para 64-70: an optimum solution is a final plan).

using a specific plan for the one or more plans to determine a recording schedule for a personal video recorder system (Para 70).

Montvay does not specifically teach assigning scores to the one or more plans.

However, Nourbakhsh teaches assigning scores to the one or more plans for the purpose of producing multiple schedules and using a score function to pick out the optimal schedule (Para 20) for the purpose of automatically selecting an optimal plan using a scoring system.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to combine the teachings of Montvay with assigning scores to the one or more plans for the purpose of producing multiple schedules and using a score function to pick out the optimal schedule, as taught by Nourbakhsh, because it allows the automatic selection of an optimal plan using a scoring system.

Montavay in view of Nourbakhsh does not specifically teach where scoring each plan includes determining whether there is a null solution to a job in the plan and if so modifying the score for the plan based on having the null solution.

However, it would have been obvious to one having ordinary skill in the art of task planning and scheduling to frequently encounter a null solution, for instance in cases where there is no suitable spot in the schedule to execute a job; and often these schedules that contain too many null solutions for a job are not preferred by giving them a low score since one ordinary would want a schedule that can accommodate as many jobs as possible for the sake of efficiency. Specifically it would have been obvious to modify the teachings of Montavay with the specifics of where scoring each plan includes determining whether there is a null solution to a job in the plan and if so modifying the score for the plan based on having the null solution, as taught by Johnson, because it allows one to distinguish a non-preferred plan from the good ones such that the best feasible plan may be chosen (Column 23, lines 46-55).

8. As per claim 4, Nourbakhsh teaches automatically determining a preferred plan based on the assigned scores (Para 20).

9. As per claim 5, Nourbakhsh teaches a scoring system that scores each plan and picks out the optimal plan based on given constraints (Para 20). Barton teaches a user assigned priority for each job (Para 129).

10. As per claim 6, Nourbakhsh teaches the step of assigning scores includes assigning scores based on components of each of the zero or more jobs (Para 21, 37-

43).

As per claim 7, Nourbakhsh teaches ranking the one or more plans based on the assigned scores (Para 21, lines 40-44).

11. As per claim 8, Montvay teaches the step of determining one or more plans includes determining two or more plans (Para 69-70).

12. As per claim 17, Montvay teaches wherein: the step of determining one or more plans includes determining the one or more plans based on a pre-defined user preference (Para 60-61).

13. As per claim 18, Montvay teaches filtering the one or more plans including keeping a first plan for presentation to a user and ignoring a second plan so that the second plan is not presented to the user (Para 69-70).

14. As per claim 19, Montvay teaches the first plan has a first set of solutions for the zero or more jobs and the second plan has a second set of solutions for the zero or more jobs, wherein at least one solution for at least one job of the first set of solutions is preferred over a corresponding solution for the at least one job of the second set of solutions (Para 68-70).

15. As per claim 20, Nourbakhsh teaches scoring the one or more plans; and filtering the one or more plans such that at least one plan with a higher score than other plans of the one or more plans is presented to a user and at least one plan with a lower score than other plans of the one or more plans is not presented to the user (Para 20).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to combine the teachings of Montvay with assigning scores to the one or more plans for the purpose of producing multiple schedules and using a score function to pick out the optimal schedule, as taught by Nourbakhsh, because it allows the automatic selection of an optimal plan using a scoring system.

16. As per claim 23, Montvay teaches the step of receiving a first user input request zero or more jobs includes receiving a request to record a program (Para 30).

17. As per claim 24, Montvay teaches the step of receiving a first user input request zero or more jobs includes receiving a request to accomplish a task (Para 30).

18. Claims 2, 9-16, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montvay et al., Pub No. 2003/0037151 (hereafter Montvay) in view of Nourbakhsh et al., Pub No. 2003/0009520 (hereafter Nourbakhsh) further in view of Barton et al., Pub. No. 2002/0118954 (hereafter Barton).

19. Barton was cited in the previous office action.



20. As per claim 2, Montvay does not specifically teach receiving a priority for each job from a user.

However, Barton teaches receiving a priority for each job from a user (Para 129) for the purpose of having more user interaction in determining a scheduling plan.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Montvay with receiving a priority for each job from a user, as taught by Barton, because it allows more user interaction in determining a scheduling plan.

21. As per claim 9, Montvay does not specifically teach automatically determine a plan based on scores.

However, Barton teaches automatically determining a preferred plan based on scores, wherein the scores are based on components of each of the jobs, the components including at least one element selected from the group including a recording time, a recording quality, a type of program, a relative position in an order a job of the two or more jobs was input, an inclusion 10 of bonus time and a keyword (Para 129) for the purpose of generating a schedule that is optimal for the viewer.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Montvay with automatically determining a preferred plan based on scores, wherein the scores are based on components of each of the jobs, the components including at least one element selected from the group including a recording time, a recording quality, a type of program, a relative

position in an order a job of the two or more jobs was input, an inclusion 10 of bonus time and a keyword, as taught by Barton, because it generates a schedule that is optimal for the viewer.

22. As per claim 10, Montvay does not specifically teach receiving a trigger while determining solutions.

However, Barton teaches receiving a trigger; in response to receiving the trigger, determining one or more new solutions for the zero or more jobs; determining a new plan including one new solution for each job such that the solutions use less than or equal to the number of resources available (Para 162; user action corresponds to trigger) for the purpose of allowing user interaction in plan determination.

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to modify the teachings of Montvay with receiving a trigger; in response to receiving the trigger, determining one or more new solutions for the zero or more jobs; determining a new plan including one new solution for each job such that the solutions use less than or equal to the number of resources available, as taught by Barton, because it allows for user interaction in plan determination

23. As per claim 11, Barton teaches wherein: the step of receiving the trigger includes receiving an updated schedule from an input (Para 162).

24. As per claim 12, Barton teaches receiving the trigger includes receiving an updated schedule from an input, the input selected from a group including a satellite signal, a cable signal, an antenna signal, and a telephone line signal (Fig 1, unit 111).

25. As per claim 13, Barton teaches wherein: the step of receiving the trigger includes receiving a second user input (Para 162; the input from viewer is constant).

26. As per claims 14 and 21, Montvay does not specifically teach providing a user with the two or more plans; and receiving a second user input that indicates a preferred plan.

However, Barton teaches providing a user with the two or more plans; and receiving a second user input that indicates a preferred plan (Para 160-161) for the purpose of allowing user interaction in plan determination.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Montvay with providing a user with the two or more plans; and receiving a second user input that indicates a preferred plan, as taught by Barton, because it allows user interaction in plan determination

27. As per claim 15, Barton teaches determining from the second user input a user priority for at least one job (Para 129).

28. As per claim 16, Barton teaches receiving a third user input adding a new job;

determining one or more new solutions for the new job; and determining a new plan including one of the one or more new solutions, wherein determining the plan is based in part on the second user input (Para 129).

29. As per claim 22, Barton does not specifically teach presenting the one or more plans to the user includes presenting the plans in a first category and a second category, the first category including zero or more plans having no null solutions and the second category including zero or more plans having at least one null solution.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to have a scheduling plan that may be either feasible or not feasible in the situation that the user is not willing to resolve any conflicts by changing preferences, in which case it would be a null solution.

30. Claims 1 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Montvay et al., Pub No. 2003/0037151 (hereafter Montvay) in view of Cragun et al., Patent No. 7,283,970 (hereafter Cragun) further in view of Johnson et al., Patent No. 5,978,785 (hereafter Johnson).

31. As per claim 1, Montvay teaches the invention as claimed including a method comprising:

receiving one or more inputs, the one or more inputs requesting recording of one or more of a plurality of jobs (Para 30: user requests for recording);

determining one or more solutions for each of the plurality of jobs based on a transmission schedule, each non-null solution requiring a set of resources over a set of intervals (Para 66), wherein one or more combination of a solutions for the plurality of jobs require a number of resources greater than a number of resources available at a particular interval, resulting in a scheduling conflict (Para 30: recording conflict);

resolving the scheduling conflict inducing automatically determining one or more plans for performing jobs (Para 70), each plan having a combination of solution including a particular solution for each of the plurality of jobs, wherein resources used by the plurality jobs for the combination of solutions in each plan are less than or equal to the number of resources available at each interval (Para 47-56: each possibility corresponds to a solution for each recording job; Para 64-70: an optimum solution is a final plan).

using a specific plan for the one or more plans to determine a recording schedule for a personal video recorder system (Para 70).

Montvay does not specifically teach assigning scores to the one or more plans.

However, Cragun teaches assigning scores to the one or more plans for the purpose of producing multiple schedules and using a score function to pick out the optimal schedule (Column 4, lines 34-45; Column 5, lines 45-55; Column 6, lines 15-34) for the purpose of resolving conflicts.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to combine the teachings of Montvay with assigning scores to the one or more plans for the purpose of producing multiple schedules and using a

score function to pick out the optimal schedule, as taught by Cragun, because it allows for conflict resolution.

Montavay in view of Cragun does not specifically teach where scoring each plan includes determining whether there is a null solution to a job in the plan and if so modifying the score for the plan based on having the null solution.

However, it would have been obvious to one having ordinary skill in the art of task planning and scheduling to frequently encounter a null solution, for instance in cases where there is no suitable spot in the schedule to execute a job; and often these schedules that contain too many null solutions for a job are not preferred by giving them a low score since one ordinary would want a schedule that can accommodate as many jobs as possible for the sake of efficiency. Specifically it would have been obvious to modify the teachings of Montavay in view of Cragun with the specifics of where scoring each plan includes determining whether there is a null solution to a job in the plan and if so modifying the score for the plan based on having the null solution, as taught by Johnson, because it allows one to distinguish a non-preferred plan from the good ones such that the best feasible plan may be chosen (Column 23, lines 46-55).

32. As per claim 25, Montvay teaches the invention as claimed including a method comprising:

receiving one or more inputs, the one or more inputs requesting recording of one or more of a plurality of jobs (Para 30: user requests for recording);

determining one or more solutions for each of the plurality of jobs based on a transmission schedule, the solutions including null solutions and non-null solutions, each non-null solution requiring a set of resources over a set of intervals (Para 66), wherein one or more combination of a solutions for the plurality of jobs require a number of resources greater than a number of resources available at a particular interval, resulting in a scheduling conflict (Para 30: recording conflict);

resolving the scheduling conflict including automatically determining one or more plans for performing jobs (Para 70), each plan having a combination of solution including a particular solution for each of the plurality of jobs, wherein resources used by the plurality jobs for the combination of solutions in each plan are less than or equal to the number of resources available at each interval (Para 47-56: each possibility corresponds to a solution for each recording job; Para 64-70: an optimum solution is a final plan).

using a specific plan for the one or more plans to determine a recording schedule for a personal video recorder system (Para 70).

Montvay does not specifically teach null solutions and determining each plan includes identifying a high scoring solution for a first job of the plurality of jobs and identifying solutions for each other job of the plurality of jobs compatible with the high scoring solution of the first job.

However, Cragun teaches null solutions (Column 5, line 54-55) and identifying a high scoring solution for a first job of the plurality of jobs and identifying solutions for each other job of the plurality of jobs compatible with the high scoring solution of the first

job (Column 4, lines 34-45; Column 5, lines 45-55; Column 6, lines 15-34: the solution with the highest conflict score corresponds to the high scoring solution of the first job) for the purpose of conflict resolution.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Montvay with null solutions and identifying a high scoring solution for a first job of the plurality of jobs and identifying solutions for each other job of the plurality of jobs compatible with the high scoring solution of the first job, as taught by Cragun, because it allows for conflict resolution.

### ***Response to Arguments***

33. Applicant's arguments with respect to claims 1-2, 4-25 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

34. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN H NGUYEN/  
Primary Examiner, Art Unit 2194

